Unit 5 Probability

Content Area: **Special Education**
Course(s):
Time Period: **September**
Length: **6 weeks**
Status: **Published**

Enduring Understandings

The likelihood of the occurrence of an event can be expressed by a number between 0 and 1.

Computing theoretical probability can predict the frequencies of an event.

Essential Questions

How can the likelihood of the occurrence of an event be expressed?

Can the theoretical probability of an event be compared to the experimental probability using a simulation?

Content

Vocabulary

Probability

Outcomes

Event

Theoretical probability

Experimental probability

Law of Large Numbers

Skills

Find the probability of an independent event.

Investigate and explain the law of large numbers.

Apply probabilities to determine the fairness of a game.

Design fair and unfair games and calculate the probabilities results.

Evaluate factorials.

Use and apply the counting principle to determine the number of ways an event can occur.

Use the addition principle to find probabilities.

Resources

Standards

Statistics & Probability

7.SP.C. Investigate chance processes and develop, use, and evaluate probability models.

7.SP.C.5. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

7.SP.C.6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.

Show details

7.SP.C.7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.

7.SP.C.7a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.

Show details

7.SP.C.7b. Develop a probability model (which may not be uniform) by observing frequencies in data

generated from a chance process.

Show details

7.SP.C.8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

7.SP.C.8a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.

7.SP.C.8b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.

7.SP.C.8c. Design and use a simulation to generate frequencies for compound events.

Show details

MA.6.SP	Statistics and Probability
MA.6.SP.A	Develop understanding of statistical variability.
MA.6.SP.A.1	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.
MA.6.SP.B	Summarize and describe distributions.
MA.6.SP.B.5a	Reporting the number of observations.